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TO:	**Minh-Chau Pham** **Patent Examiner** **U.S. Patent and Trademark Office**	**DATE:**	August 24, 2004
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		FROM:	Stephen J. Roe
FAX NO:	(703) 872-9306		26 Pages (w/ this sheet)
CLIENT ID:	HELLWAT-7	**OPERATOR:**	

Comments:
Applicant: Edward T. Maas
Appln. No.: 10/091,170
Title: Aeration Tank Control Valve System
Our Ref.: HELLWAT-7

Attached for filing, please find resubmission of non-compliant claims.

Transmission Completed: _____

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In the claims:

Please amend the claims as follows:

1. (currently amended) An aeration control apparatus for a ~~water~~ fluid filtration system for removing contaminants from ~~well or city main water~~ a supply of fluid, comprising:

an aeration tank, having an interior, a ~~water~~fluid inlet into the interior, a diffuser between the ~~water~~fluid inlet and the interior, a ~~water~~fluid outlet from the interior, and a bleed-off tube connecting the tank interior to a drain ~~which~~ that allows ~~water/air~~the fluid and/or gas to bleed off to the drain;

a source of compressed oxidizing gas;

a first valve;

a second valve downstream of the first valve, wherein the first valve has a first position connecting the source of compressed oxidizing gas through a first flow passage to the second valve, the second valve being displaced by gas pressure from the source of compressed oxidizing gas to a first position to open a second flow passage between the source of compressed oxidizing gas and the aeration tank and to connect the bleed-off tube to the drain, and the first valve has a second position closing the source of compressed oxidizing gas from the first flow passage and opening the first flow passage to an atmospheric exhaust; and

~~a third valve operated by the opening of the second valve to connect the interior of the aeration tank to the drain; and~~

a ~~timer~~ controllable actuator operatively connected to ~~the source of compressed oxidizing gas and~~ the first valve and having a first ~~timing~~ state for causing ~~compressed oxidizing gas to flow to the first valve and causing~~ the first valve to assume the first position, and ~~the timer having~~ a second ~~timing~~ state for ~~stopping oxidizing gas flow to the first valve and~~ causing the

first valve to assume the second position, wherein the ~~timer~~ controllable actuator is operable to repeatedly switch between the first ~~timing~~ state and the second ~~timing~~ state.

2. (currently amended) The aeration control apparatus of claim ~~1~~28, wherein the third valve, in addition to being ~~operable~~operated by ~~the opening of~~ the second valve, is responsive to pressure within the interior of the aeration tank~~, so as~~ to open the bleed-off tube to the drain, independent of the ~~opening~~operation of the second valve~~, the third valve thus functioning as a pressure relief valve~~.

3. (currently amended) The aeration control apparatus of claim ~~1~~29, wherein the first valve is a solenoid valve.

4. (currently amended) The aeration control apparatus of claim 1, wherein the source of compressed oxidizing gas is an ~~air~~ compressor.

5. (currently amended) The aeration control apparatus of claim 130, wherein the timer is a programmable ~~controller~~ and wherein the first ~~timer~~timing state is less than about four percent of the second ~~timer~~timing state.

6. (currently amended) The aeration control apparatus of claim ~~1~~30, wherein the first ~~timer~~timing state is maintained for a period of ~~from~~ between about five minutes and about fifteen minutes, and the second ~~timer~~timing state is selectable ~~by means of switches to extend~~and is maintained for a period of at least approximately four hours.

7. (currently amended) The aeration control apparatus of claim 6, wherein the first ~~timer~~timing state extends over a period of about ten minutes, and the selectable second ~~timer~~timing state is maintained~~selectable by means of switches to extend~~ for a period of between about four hours and about forty-eight hours.

8. (currently amended) The aeration control apparatus of claim 1, wherein the second valve ~~further~~ comprises:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the first valve is in the first position, and a second side communicating with the interior of the air tank by way of the bleed-off tube;; and

a valve stem ~~having a first end engageable by the valve piston, to move the valve stem~~that moves with the valve piston, the valve stem having a valve seal positioned on and engagable with a valve seat, ~~the valve seal being opposite the first end, and moving in response to the first end being engaged~~the valve stem moved by the ~~first~~ valve ~~stem,~~piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed-off tube~~; and~~

~~a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston, the valve stem having a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat so connecting the bleed-off tube to the drain when the second valve is closed, but when pressure in the aeration tank is sufficiently high, to overcome the biasing member and unseat the valve seat from the valve seal~~.

9. (currently amended) A ~~water~~fluid filtration apparatus for removing ~~mineral~~oxidizable contaminants from ~~well or city main water~~a supply of fluid, comprising:

an aeration tank, having an interior, a ~~water~~fluid inlet into the interior, a diffuser between the fluid~~water~~ inlet and the interior, a fluid~~water~~ outlet from the interior, and a bleed-off

tube connecting the tank interior to a drain, the bleed-off tube ~~allows water/air~~allowing the fluid and/or a gas to bleed off to the drain;

~~an air compressor~~a source of compressed oxidizing gas;

~~an electric solenoid~~a controllable valve connecting the ~~air compressor~~source of compressed oxidizing gas to a ~~second~~controlled valve, the ~~second~~controlled valve ~~being~~ operable by air pressure from the ~~air compressor,~~source of compressed oxidizing gas to open a flow passage between the ~~air compressor~~source of compressed oxidizing gas and the ~~air~~aeration tank; a ~~third valve operated by the opening of the second valve~~and to connect the interior of the aeration tank through the bleed-off tube to the drain;

a controller operably connected to the ~~electric solenoid and the air compressor~~controllable valve to ~~simultaneously turn the air compressor and the solenoid on and off~~operate the controllable valve between first and second positions;

wherein the ~~second~~controlled valve has:

_____a valve piston having a first side exposed to the source of compressed oxidizing gas when the ~~first~~controllable valve is in the first position, and a second side communicating with the interior of the air tank ~~by way of~~via the bleed-off tube; and

_____a valve stem ~~having a first end engageable by the valve piston, to move~~ the ~~valve stem~~ that moves with the valve piston, the valve stem having a valve seal positioned on ~~a valve seat, the valve seal being opposite the stem~~ first end and engagable with a valve seat, and ~~moving in response to the first end being engaged~~the valve stem moved by the valve piston, to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube~~, a biasing member between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston, the valve stem having a pressure receiving~~

~~surface to cause the valve stem to move against the biasing member forming a pressure relief valve so that excess pressure within the aeration tank will cause the valve seal to move away from a valve seat so connecting~~ the bleed off tube to the drain when the second valve is closed, ~~but when pressure in the aeration tank is sufficiently high, to overcome the biasing member and unseat the valve seat from~~ the valve seal.

10. (currently amended) The water filtration apparatus of claim 9, wherein the ~~programmable~~ controller is programmed to ~~turn on~~place the solenoidcontrollable valve ~~and the air compressor~~in the first position for a first period of time followed by ~~turning off the air compressor and solenoid~~ placing the controllable valve in the second position for a second period of time that is at least about 24 times as long as the first period of time.

11. (currently amended) The water filtration apparatus of claim 10, wherein the first period of time is about ten minutes, and the second period of time is adjustable between about four hours and about forty-eight hours.

12. (cancelled)

13. (currently amended) An aeration tank control valve assembly for ~~mounting to~~ an aeration tank, ~~the assembly~~ the aeration tank comprising:

~~an aeration head having a base which mounts to an opening in the aeration tank;~~ the aeration ~~head having~~ a ~~water~~fluid inlet ~~and a water outlet which communicate with the opening in the aeration tank~~;

a fluid outlet;

a diffuser ~~supported at the base of~~located within the aeration headtank and communicating ~~in communication~~ with the ~~water~~fluid inlet ~~and the aeration tank~~;

a pick-up tube located within the aeration tank and communicating with the ~~aeration head water~~fluid outlet, the aeration control valve assembly comprising; ~~and the aeration tank;~~

a valve housing, ~~mounted to the aeration head, wherein~~ portions of the valve housing and ~~the aeration head define~~defining a flow passage ~~which communicates with~~ that is connectable to an interior of the aeration tank;

a source of compressed oxidizing gas;

a bleed-off tube ~~which~~that extends into the aeration tank and ~~which~~that communicates with the valve housing;

a first valve connected to the valve housing;

a second valve located within the valve housing in communication with the first valve, the second valve having a first position to open communication between the ~~first valve~~flow passage and the aeration tank and to open communication between the bleed-off tube and a drain and a second position to close such communication, wherein the first valve has a first position connecting the source of compressed oxidizing gas to the ~~second valve~~flow passage, and a second position closing the source of compressed oxidizing gas from the flow passage and opening the flow passage to an atmospheric exhaust, the second valve being operated by gas pressure from the source of compressed oxidizing gas in the flow passage to open ~~the flow passage~~communication between the source of compressed oxidizing gas and the aeration tank;

~~a third valve operated by the movement of the second valve and having a first position to open communication between the bleed-off tube and the drain, and a second position to close communication between the bleed-off tube and the drain; and~~

a ~~timer~~ controllable actuator operatively connected to at least ~~the source of compressed oxidizing gas and~~ the first valve and having a first ~~timing~~ state for causing ~~compressed oxidizing gas to flow to the first valve and for causing~~at least the first valve to assume ~~the~~its first position, ~~wherein~~ to provide oxidizing gas ~~is directed~~ to the second valve, ~~thereby causing~~ the second valve ~~to move~~ moving to its first position in response to the oxidizing gas being provided to the second valve, ~~and the third valve to move to its first position,~~ the ~~timer~~controllable actuator having a second ~~timing~~ state for ~~stopping oxidizing gas flow to~~causing the first valve to assume its second position and allowing system ~~water~~ pressure in the bleed-off tube to cause the second valve to move to its second position, ~~thereby causing the~~ third valve to close communication between the bleed-off tube and the drain, ~~and~~ wherein the ~~timer~~controllable actuator is operable to repeatedly switch between the first ~~timing~~ state and the second ~~timing~~ state.

14. (currently amended) The aeration tank control valve assembly of claim 13, wherein the pick-up tube extends through the diffuser into the aeration tank.

15. (currently amended) The aeration tank control valve assembly of claim 13, wherein the bleed-off tube extends through the diffuser ~~and aeration head~~.

16. (currently amended) The aeration tank control valve assembly of claim 13, wherein the source of compressed oxidizing gas is mounted to the valve housing.

17. (currently amended) The aeration tank control valve assembly of claim 13, wherein the ~~timer~~controllable actuator is mounted to the valve housing.

18. (currently amended) The aeration tank control valve assembly of claim 13, wherein the first valve is a solenoid valve.

19. (currently amended) The aeration tank control valve assembly of claim 13, wherein the source of compressed oxidizing gas is ~~an air~~ compressor.

20. (currently amended) The aeration tank control valve assembly of claim ~~13~~27, wherein the timer is ~~a~~ programmable ~~controller~~ and wherein the first ~~timer~~timing state is less than about four percent of the second ~~timer~~timing state.

21. (currently amended) The ~~apparatus~~aeration tank control valve assembly of claim ~~13~~27, wherein the first ~~timer~~ timing state is maintained for a period of ~~from~~ between about five minutes and about fifteen minutes, and the second ~~timer~~ timing state is selectable ~~by means of switches to extend~~and is maintained for a period of at least approximately four hours.

22. (currently amended) The ~~apparatus~~aeration tank control valve assembly of claim 21, wherein the first ~~timer~~ timing state extends over a period of about ten minutes, and the second ~~timer~~ timing state is selectable ~~by~~ ~~means of switches to extend~~and is maintained for a period of between about four hours and about forty-eight hours.

23. (currently amended) The aeration tank control valve assembly of claim 13, wherein the second valve ~~further~~ comprises:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the first valve is in ~~the~~its first position, and a second side communicating with the interior of the ~~air~~aeration tank ~~by way of~~via the bleed-off tube~~.~~; and

a valve stem ~~having a first end engageable by the valve piston, to move the valve stem~~that moves with the valve piston, the valve stem having a valve seal positioned on ~~a valve seat, the valve seal being opposite the first end~~and engagable with a valve seat, and ~~moving in response to the first end being engaged~~the valve stem moved by the first valve stem, to

disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed-off tube; ~~and~~

~~a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston, the valve stem having a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat so connecting the bleed off tube to the drain when the second valve is closed, but when pressure in the aeration tank is sufficiently high, to overcome the biasing member and unseat the valve seat from the valve seal.~~

24. (new) The aeration control apparatus of claim 23, wherein the valve stem is separate from and engagable with the valve piston, the valve stem comprising:

a first end engageable by the valve piston to move the valve stem with the valve piston;

a valve seal positioned on the valve stem opposite the first end of the valve stem and engagable with a valve seat;

a biasing member that biases the valve stem into engagement with the valve piston;

wherein the valve stem moves in response to the first end being engaged by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

25. (new) The aeration control apparatus of claim 24, wherein the second valve further comprises:

a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston.

26. (new) The aeration control apparatus of claim 25, wherein the valve stem further comprises a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat to connect the bleed-off tube to the drain when the second valve is closed and pressure in the aeration tank is sufficiently high to overcome the biasing member and unseat the valve seat from the valve seal.

27. (new) The aeration tank control valve assembly of claim 13, wherein the controllable actuator is a timer, the first state is a first timing state and the second state is a second timing state.

28. (new) The aeration control apparatus of claim 1, further comprising a third valve operated by the second valve to connect the bleed-off tube to the drain.

29. (new) The aeration control apparatus of claim 1, wherein the first valve is an electrically-operated valve.

30. (new) The aeration control apparatus of claim 1, wherein the controllable actuator is a timer, the first state is a first timing state and the second state is a second timing state.

31. (new) The aeration control apparatus of claim 1, wherein the fluid is water.

32. (new) The aeration control apparatus of claim 1, wherein the supply of fluid is a well or a water main.

33. (new) The aeration control apparatus of claim 1, wherein the source of compressed gas is a canister of compressed oxygen-rich gas.

34. (new) The aeration control apparatus of claim 4, wherein the controllable actuator is operatively connected to the compressor and causes, in the first state, compressed oxidizing gas to flow to the first valve and in the second state stops oxidizing gas from flowing to the first valve.

35. (new) The aeration control apparatus of claim 8, wherein the valve stem is separate from and engagable with the valve piston, the valve stem comprising:

a first end engageable by the valve piston to move the valve stem with the valve piston; and

a valve seal positioned on the valve stem opposite the first end of the valve stem and engagable with a valve seat;

wherein the valve stem moves in response to the first end being engaged by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

36. (new) The aeration control apparatus of claim 35, wherein the second valve further comprises a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston.

37. (new) The aeration control apparatus of claim 36, wherein the valve stem further comprises a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat to connect the bleed-off tube to the drain when the second valve is closed and pressure in the aeration tank is sufficiently high to overcome the biasing member and unseat the valve seat from the valve seal.

39. (new) The fluid filtration apparatus of claim 9, wherein the valve stem is separate from and engagable with the valve piston, the valve stem comprising:

a first end engageable by the valve piston to move the valve stem with the valve piston; and

a valve seal positioned on the valve stem opposite the first end of the valve stem and engagable with a valve seat; and

wherein the valve stem moves in response to the first end being engaged by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

40. (new) The fluid filtration apparatus of claim 39, wherein the second valve further comprises a biasing member that biases the valve stem into engagement with the valve piston.

41. (new) The fluid filtration apparatus of claim 40, wherein the valve stem further comprises a pressure receiving surface usable to move the valve stem against the biasing member, such that, when the second valve is closed, pressure within the aeration tank that is sufficiently high enough to overcome the biasing member acts on the pressure receiving surface to move the valve seal away from the valve seat to connect the bleed off tube to the drain.

42. (new) The fluid filtration apparatus of claim 9, wherein the source of compressed gas is a compressor.

43. (new) The fluid filtration apparatus of claim 9, wherein the source of compressed gas is a canister of compressed oxygen-rich gas.

44. (new) The fluid filtration apparatus of claim 9, wherein the controllable valve is a solenoid valve.

45. (new) An aeration control apparatus, connectable between an aeration tank, a source of compressed oxidizing gas and a drain of a fluid filtration system; the aeration control apparatus comprising

a first valve;

a second valve downstream from the first valve; and

a controllable actuator operatively connected to at least the first valve, wherein:

the first valve is displaceable between a first position where the second valve is disconnected from the source of compressed oxidizing gas and is connected to an ambient atmosphere and a second position where the second valve is connected to the source of compressed oxidizing gas;

the second valve is displaceable from a third position where a flow passage between the first valve and the aeration tank is closed to a fourth position where the flow passage between the first valve and the aeration tank is open;

the controllable actuator, when in a first state, operates the first valve to displace the first valve from the first position into the second position, and, when in a second state, does not operate the first valve, such that the first valve is in, or returns from the second position to, the first position, wherein the timer is operable to repeatedly switch between the first timing state and the second timing state; and

upon the first valve being displaced into the second position to connect the source of compressed oxidizing gas to the second valve, a pressure of the compressed oxidizing gas supplied by the source of compressed oxidizing gas displaces the second valve from the third position to the fourth position to allow the compressed oxidizing gas to enter the aeration tank.

46. (new) The aeration control apparatus of claim 45, further comprising:

a third valve that is displaceable between a fifth position where the aeration tank is disconnected from the drain and a sixth position where the aeration tank is connected to the drain, wherein the second valve, when displaced from the third position to the fourth position, displaces the third valve from the fifth position to the sixth position.

47. (new) The aeration control apparatus of claim 46, wherein the third valve is displaceable by a gas pressure within the aeration tank, when the gas pressure is above a predetermined value, from the fifth position to the sixth position to connect the aeration tank to the drain, independently of the second valve being displaced from the third position to the fourth position, to reduce the gas pressure within the aeration tank to at most the predetermined value.

48. (new) The aeration control apparatus of claim 45, wherein the first valve is a solenoid valve.

49. (new) The aeration control apparatus of claim 45, wherein the source of compressed oxidizing gas is a canister of compressed oxygen-rich gas.

50. (new) The aeration control apparatus of claim 45, wherein the source of compressed oxidizing gas is a compressor.

51. (new) The aeration control apparatus of claim 50, wherein the compressor is mounted to the aeration control apparatus.

52. (new) The aeration control apparatus of claim 50, wherein the compressor is operably connected to the controllable actuator, such that, when the controllable actuator is in the first state, the compressor is operated to supply compressed oxidizing gas to the first valve and, when the controllable actuator is in the second state, the compressor is not operated.

53. (new) The aeration control apparatus of claim 45, wherein the controllable actuator is a timer, the first state is a first timing state and the second state is a second timing state.

54. (new) The aeration control apparatus of claim 53, wherein the first timing state is less than about four percent of the second timing state.

55. (new) The aeration control apparatus of claim 53, wherein the first timing state is maintained for a period of between about five minutes and about fifteen minutes.

56. (new) The aeration control apparatus of claim 53, wherein the second timing state is maintained for at least approximately four hours.

57. (new) The aeration control apparatus of claim 53, wherein the second timing state is maintained for at most approximately forty-eight hours.

58. (new) The aeration control apparatus of claim 53, wherein the second timing state is maintained for a selectable period.

59. (new) The aeration control apparatus of claim 34, wherein the timer has a programmable period over which the second timing state is maintained.

60. (new) The aeration control apparatus of claim 45, wherein the second valve comprises:

a valve piston that moves from the third position to the fourth position, the valve piston having:

a first side that is exposed to the source of compressed oxidizing gas when the first valve is in the second position, and

a second side that is in communication with the aeration tank via a third flow passage.

61. (new) The aeration control apparatus of claim 50, wherein the second valve further comprises a third valve, the third valve comprising:

a valve stem having a first end engagable by the valve piston, the valve stem moved from the fifth position to the sixth position by the valve piston moving from the third position to the fourth position; and

a valve seal positioned on the valve stem opposite the first end and engagable with a valve seat, the valve seal disengaging from the valve seat in response to the first end of the valve stem being engaged by the valve piston, to connect the aeration tank, via the third flow passage, to the drain.

62. (new) The aeration control apparatus of claim 61, wherein the second valve further comprises a biasing member that biases the valve stem into engagement with the valve piston.

63. (new) The aeration control apparatus of claim 62, wherein the valve stem has a pressure receiving surface, the valve stem moving against the biasing member when a pressure within the aeration tank that is greater than a predetermined value acts against the pressure receiving surface, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain via the third flow passage, such that the pressure within the aeration tank is reduced.

64. (new) The aeration control apparatus of claim 45, wherein the second valve comprises:

a valve piston that moves from the third position to the fourth position, the valve piston having:

a first side that is exposed to the gas source when the first valve is in the second position, and

a second side that is in communication with the aeration tank via a third flow passage.

a valve stem that moves with the valve piston such that the valve stem moves from a fifth position to a sixth position when the valve piston moves from the third position to the fourth position; and

a valve seal positioned on the valve stem that disengages from the valve seat in response to the valve stem moving from the fifth position to the sixth position to connect the aeration tank, via the third flow passage, to the drain.

65. (new) The aeration control apparatus of claim 64, wherein the second valve further comprises biasing member that biases the valve stem into engagement with the valve piston.

66. (new) The aeration control apparatus of claim 65, wherein the valve stem has a pressure receiving surface, the valve stem moving against the biasing member when a pressure within the aeration tank that is greater than a predetermined value acts against the pressure receiving surface, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain via the third flow passage, such that the pressure within the aeration tank is reduced.

67. (new) A water filtration apparatus usable to remove oxidizable contaminants from a fluid containing such oxidizable contaminants, comprising:

an aeration tank;

a drain line;

a source of compressed oxidizing gas;

a controllable valve that controllably connects the source of compressed oxidizing gas to a second valve, the second valve operable by pressure of the compressed oxidizing gas supplied by the source of compressed oxidizing gas to open a first flow passage between the source of compressed oxidizing gas and the aeration tank;

an actuator operably connected to the controllable valve to operate an actuator of the controllable valve to move the controllable valve between a first where the compressed oxidizing gas is provide to the second valve and a second state where the compressed oxidizing gas is not provided to the second valve;

wherein the second valve comprises:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the controllable valve is in the second state, and a second side communicating with the aeration tank through a second flow passage, and

a valve stem that moves with the valve piston, the valve stem moving with the valve piston when the valve piston moves to open the first flow passage between the source of compressed oxidizing gas and the aeration tank.

a valve seal positioned on the valve stem and engagable with a valve seat, the valve seal disengaging from the valve seat in response to the valve stem moving with the valve piston to connect the aeration tank, via the second flow passage, to the drain.

68. (new) The water filtration apparatus of claim 67, wherein:

the valve stem is separate from and engagable with the valve piston, the valve stem comprising a first end engageable by the valve piston to move the valve stem with the valve piston; and

the valve seal is positioned on the valve stem opposite the first end of the valve stem.

69. (new) The water filtration apparatus of claim 35, wherein the second valve further comprises a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston.

70. (new) The water filtration apparatus of claim 69, wherein the valve stem further comprises a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat to connect the bleed-off tube to the drain when the second valve is closed and pressure in the aeration tank is sufficiently high to overcome the biasing member and unseat the valve seat from the valve seal.

71. The water filtration apparatus of claim 67, wherein the actuator is operably connected to the source of compressed oxidizing gas to turn the source of compressed oxidizing gas on and off as the first valve is placed in the first and second positions, respectively.

72. (new) The water filtration apparatus of claim 67, wherein the actuator is programmable to place the controllable valve in the first position for a first period of time and to place the controllable valve in the second state for a second period of time, the second period of time being at least about 24 times as long as the first period of time.

73. (new) The water filtration apparatus of claim 73, wherein the first period of time is about ten minutes, and the second period of time is adjustable between about four hours and about forty-eight hours.

74. (new) An aeration tank control valve assembly usable with an aeration tank, comprising:

an aeration head having a base that mounts to an opening in the aeration tank, the aeration head having a water inlet and a water outlet that communicate with the opening in the aeration tank;

a diffuser supported at the base of the aeration head in communication with the water inlet and the aeration tank;

a pick-up tube communicating with the aeration head water outlet and the aeration tank;

a valve housing mounted to the aeration head, wherein portions of the valve housing and the aeration head define a flow passage that communicates with the aeration tank;

a gas source supplying compressed oxidizing gas;

a bleed-off tube which extends into the aeration tank and which communicates with the valve housing;

a first valve connected to the housing;

a second valve located within the valve housing and communicating with the first valve,

a third valve; and

an actuator operatively connected to at least the first valve, wherein:

the first valve is displaceable between a first position disconnecting the second valve from the gas source and opening the flow passage to an atmospheric exhaust and a second position connecting the second valve to the gas source;

the second valve is displaceable between a third position that closes the flow passage to disconnect the aeration tank from the first valve and a fourth position that opens the flow passage to connect the first valve and the aeration tank, gas pressure from the gas source moving the second valve from the third position to the fourth position when the first valve is in the second position;

the third valve is displaceable between a fifth position that disconnects the bleed-off tube and the drain and a sixth position that connects the bleed-off tube and the drain,

the second valve, when displaced from the third position to the fourth position, displacing the third valve from the fifth position to the sixth position;

the actuator, when in a first state, operates the first valve to displace the first valve from the first position into the second position, and, when in a second state, does not operate the first valve, such that the first valve is in, or returns from the second position to, the first position, wherein the actuator is operable to repeatedly switch between the first state and the second state.

75. (new) The aeration tank control valve assembly of claim 74, wherein the pick-up tube extends through the diffuser into the aeration tank.

76. (new) The aeration tank control valve assembly of claim 74, wherein the bleed-off tube extends through the diffuser and the aeration head.

77. (new) The aeration tank control valve assembly of claim 74, wherein the gas source is a compressor.

78. (new) The aeration tank control valve assembly of claim 77, wherein the compressor is operably connected to the actuator, such that, when the actuator is in the first state, the compressor is operated to supply compressed oxidizing gas to the first valve and, when the timer is in the second state, the compressor is not operated.

79. (new) The aeration tank control valve assembly of claim 74, wherein the first state is maintained for a period that is less than about four percent of a period over which the second state is maintained.

80. (new) The aeration tank control valve assembly of claim 74, wherein the first state is maintained for a period of between about five minutes and about fifteen minutes.

81. (new) The aeration tank control valve assembly of claim 80, wherein the second state is maintained for at least approximately four hours.

82. (new) The aeration tank control valve assembly of claim 80, wherein the second state is maintained for at most approximately forty-eight hours.

83. (new) The aeration tank control valve assembly of claim 74, wherein the actuator is programmable to select the period over which the second state is maintained.

84. (new) The aeration tank control valve assembly of claim 74, wherein the second valve comprises:

a valve piston that moves from the third position to the fourth position, the valve piston having:

a first side that is exposed to the gas source when the first valve is in the second position, and

a second side that is in communication with the aeration tank the interior of the air tank by way of the bleed-off tube; and

the third valve, which comprises:

a valve stem having a first end engagable by the valve piston, the valve stem moved from the fifth position to the sixth position by the valve piston moving from the third position to the fourth position, and

a valve seal positioned on the valve stem opposite the first end and engagable with a valve seat, the valve seal disengaging from the valve seat in response to the first end of the valve stem being engaged by the valve piston, to open the interior of the aeration tank to the drain through the bleed-off tube; and

a biasing member that biases the valve stem into engagement with the valve piston.

85. (new) The aeration control apparatus of claim 84, wherein the valve stem has a pressure receiving surface, the valve stem moving against the biasing member when a pressure within the aeration tank that is greater than a predetermined value acts against the pressure receiving surface, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain bleed-off tube, such that the pressure within the aeration tank is reduced.

86. (new) A method for recharging an aeration tank with an amount of compressed, oxygen-containing gas, comprising:

placing, during a first period of time, at least a controllable first valve into a first position to supply compressed oxygen-containing gas to a second valve;

applying the supplied compressed oxygen-containing gas against a first portion of the second valve to move the second valve to open a first flow passage

moving a third valve, in response to moving the second valve, to connect the aeration tank, through a second flow passage, to a drain line;

supplying the compressed oxygen-containing gas to the aeration tank through the first flow passage and venting at least one of used gas and aerated fluid from the aeration tank through the second flow passage to the drain line while the controllable first valve is in the first position;

placing, during a second period of time following the first period of time, at least the controllable first valve into a second position so that the compressed oxygen-containing gas is not supplied to the second valve; and

applying pressure of the supplied compressed oxygen-containing gas contained within the aeration tank to the second portion of the second valve to return the second valve to a position where the first flow passage is closed, such that a new supply of the compressed

oxygen-containing gas is contained within the aeration tank as the amount of compressed oxygen-containing gas.

87. (new) The method of claim 86, wherein:

the first portion of the second valve is a valve piston; and

applying the compressed oxygen-containing gas against the first portion of the second valve to move the second valve to open the first flow passage comprises applying the compressed oxygen-containing gas against a first side of the valve piston of the second valve to move the valve piston to open the first flow passage;

88. (new) The method of claim 87, wherein applying pressure of the supplied compressed oxygen-containing gas contained within the aeration tank to the second valve to return the second valve to the position where the first flow passage is closed comprises:

connecting the first side of the piston to an atmospheric vent; and

applying pressure of the supplied compressed oxygen-containing gas contained within the aeration tank to a second side of the valve piston opposite the first side of the valve piston to return the valve piston to the position where the first flow passage is closed;

89. (new) The method of claim 86, wherein:

the second valve comprises a piston;

the third valve comprises a valve stem positioned within the second valve, the valve stem having one end engagable with the piston and a valve seal at the other end, the valve seal engagable with a valve seat to disconnect the aeration tank from the drain line; and

moving the third valve, in response to moving the second valve, to connect the aeration tank, through the second flow passage, to the drain line comprises moving the valve

stem in response to moving the piston to disengage the valve seal from the valve seat to connect the aeration tank, through the second flow passage, to the drain line.

90. (new) The method of claim 86, further comprising venting excess pressure in the aeration tank, if the aeration tank has an internal pressure that is greater than a predetermined value, by moving the third valve in response to the internal pressure being greater than the predetermined value to connect the aeration tank, through the second flow passage, to the drain line.

91. (new) The method of claim 90, wherein:

the second valve comprises a piston;

the third valve comprises a valve stem positioned within the second valve, the valve stem having one end engagable with the piston, a valve seal at the other end and a pressure receiving surface, the valve seal engagable with a valve seat to disconnect the aeration tank from the drain line; and

moving the third valve in response to the internal pressure being greater than the predetermined value to connect the aeration tank to the drain line comprises applying aeration tank pressure to the pressure receiving surface of the valve stem to move the valve stem away from the piston, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain line via the second flow passage.

92. (new) The method of claim 86, wherein placing, during the first period of time, at least the controllable first valve into the first position to supply compressed oxygen-containing gas to the second valve comprises activating an actuator of the controllable first value to move the first valve from the second position to the first position.

93. (new) The method of claim 92, wherein placing, during the second period of time following the first period of time, at least the controllable first valve into the second position so that the compressed oxygen-containing gas is not supplied to the second valve comprises deactivating the actuator to move the first valve from the first position to the second position.

94. (new) The method of claim 86, further comprising controllably supplying the compressed oxygen-containing gas from a controllable source of compressed oxygen-containing gas.

95. (new) The method of claim 94, wherein controllably supplying the compressed oxygen-containing gas from a controllable source of compressed oxygen-containing gas comprises activating the controllable source of compressed oxygen-containing gas during the first period of time so that the compressed oxygen-containing gas is supplied to the first valve during the first period.

96. (new) The method of claim 92, wherein controllably supplying the compressed oxygen-containing gas from a controllable source of compressed oxygen-containing gas comprises deactivating the controllable source of compressed oxygen-containing gas during the second period of time so that the compressed oxygen-containing gas is not supplied to the first valve during the second period.

97. (new) A method for removing oxidizable contaminants from a supply of fluid containing such oxidizable contaminants, comprising:

charging the aeration tank with the amount of compressed, oxygen-containing gas using the method of claim 86;

supplying fluid containing oxidizable contaminants into the aeration tank such that the supplied fluid passes through the new supply of compressed oxygen-containing gas

within the aeration tank to oxidize at least a portion of the oxidizable contaminants contained in the supply of fluid; and

providing the supplied fluid from the aeration tank to a filter to remove the oxidized oxidizable contaminants from the supply of fluid.